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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,239	04/24/2000	Jiann H. Chen	80914ROL	8664

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EXAMINER	
ZACHARIA, RAMSEY E	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 01/21/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No. 09/558,239	Applicant(s) CHEN ET AL.	
	Examiner Ramsey Zacharia	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 5-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 5-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 November 2003 has been entered.

Claim Rejections - 35 USC § 103

3. Claims 1, 2, and 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (U.S. Patent 5,595,823) in view of Chen et al. (U.S. Patent 5,582,917).

Chen et al. ('823) teach a fuser member comprising a core, a base cushion layer, and a layer overlying the base cushion (column 5, lines 43-45). The overlying layer comprises a cured random fluoropolymer and a particulate filler (column 4, lines 50-67). Viton® A, a copolymer of 75% vinylidene fluoride and 25% hexafluoropropylene, is disclosed as a suitable fluoropolymer (column 6, line 66-column 7, line 4). The fluoropolymer is cured by means of a nucleophilic cure system comprising bisphenolic residues (column 6, lines 37-65). The particulate filler comprises aluminum oxide plus alkali metal oxides and/or alkaline metal hydroxides (column 6,

lines 7-10). The aluminum oxide is 20-40 vol% of the outer layer and the alkali metal oxides and/or alkaline metal hydroxides is 5 to 20 vol% of the outer layer (claim 9). Calcium hydroxide is disclosed as a suitable alkaline metal hydroxide (claim 2). At the lower limit of 5 vol% calcium hydroxide and 20 vol% aluminum oxide (and thus 75 vol% polymer), the resulting weights for 100 cm^3 of material would be 136.5 g of polymer, 11.2 g of calcium hydroxide, and 79.4 g of aluminum oxide. That is, for every 100 g of polymer there would be 8.2 g of calcium hydroxide and 58 g of aluminum oxide.

Chen et al. ('823) do not teach the incorporation of a siloxane polymer as claimed into the material of the overlying layer.

Chen et al. ('917) is directed to a fuser member comprising substrate, an intermediate layer, and a layer comprising an interpenetrating network of a fluorocarbon copolymer with a fluorocarbon curing agent and a poly(C_{1-6} alkyl)siloxane polymer (column 2, lines 25-36). Viton® A is cited as a suitable fluorocarbon copolymer (column 4, lines 44-55 and Examples 1-4 and 7), and the fluorocarbon copolymer may further contain alumina (i.e. aluminum oxide) and acid acceptor metal oxides or hydroxides, such as magnesium oxide and calcium hydroxide. The poly(C_{1-6} alkyl)siloxane is preferably a heat-curable silicone (column 5, lines 40-41). A preferred silicone comprises a polydimethylsiloxane having a number average molecular weight of between 20,000 and 30,000 and a polymethylsiloxane comprising monofunctional and tetrafunctional siloxane repeating units having a number average molecular weight of 1,000 to 10,000 (column 5, lines 56-65). An exemplary silicone is SFR-100 (used in the Examples of Chen et al. ('917) as well as the Examples of the instant application) which comprises a silanol- or trimethylsilyl- terminated polymethylsiloxane and is a liquid blend comprising 60-80 wt% of

a difunctional polydimethylsiloxane having a number average molecular weight of about 150,000 and 20-40 wt% of a polytrimethylsilyl silicate resin having monofunctional and tetrafunctional repeating units in an average ratio of 0.8-1 to 1 and a number average molecular weight of about 2,200 (column 5, line 66-column 4, line 11). The addition of the poly(C_{1-6} alkyl)siloxane polymer to the fluorocarbon copolymer composition yields a coating with advantageous release properties in addition to the mechanical and chemical properties of the fluorocarbon copolymer (column 3, lines 13-24).

One of ordinary skill in the art would be motivated to add a poly(C_{1-6} alkyl)siloxane polymer to the composition of Chen et al. ('823) to yield a fuser member having advantageous release properties.

Therefore, the inventions of claims 1, 2, and 5-14 would have been obvious to one of ordinary skill in the art at the time the inventions were made.

Response to Arguments

4. Applicant's arguments filed 15 July 2003 have been fully considered but they are not persuasive.

The applicants argue that the range of 3 to 9 parts by weight per 100 parts by weight fluorocarbon random copolymer is outside the ranges for aluminum oxide and alkaline earth metal oxide or alkaline earth metal hydroxide or combinations thereof taught by Chen et al. ('829). However, Chen et al. teach that the amount of alkaline earth metal oxide and/or alkaline metal hydroxide may be as little as about 5 vol%. As shown above, this overlaps the claimed range of 3 to 9 parts by weight per 100 parts of fluorocarbon random copolymer.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (571) 272-1516. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

Ramsey Zacharia
Primary Examiner
Tech Center 1700